

REQUEST FOR RECONSIDERATION
U.S. Application No. 10/700,547

Independent claims 1 and 14 are directed to a method and system for preventing or reducing vibration around a structure which generates vibration or receives vibration. Claim 1 requires “disposing a plurality of adjoining column members and an elastic member underground directly underneath or around said structure, said column members forming a hard layer contiguous with said elastic member, wherein said column members have a greater stiffness than the surrounding ground.” Similarly, claim 14 requires “a plurality of adjoining column members disposed around a periphery of said elastic member, said column members forming a hard layer contiguous with said elastic member, wherein said elastic member and said column members are disposed underground directly beneath or around said structure, said column members have a greater stiffness than the surrounding ground.”

Csak discloses a shock absorption system provided between a foundation 1 and a superstructure 2 of a building. The shock absorption system includes a plurality of steel mandrels 3 which are arranged in bushings 4 disposed in cavities of the superstructure 2, and a sliding block 8 arranged in the foundation 1. A sandwich system 5 of rubber sheets 6 and metal sheets 7 is arranged between the foundation 1 and the superstructure 2 so as to surround the mild steel mandrels 3.

With regard to claims 1 and 14, the Examiner cites Fig. 1 of Csak for allegedly disclosing all of the features of the claimed invention. For example, the Examiner asserts that the claimed “adjoining column members” read on Csak’s “mandrels 3 adjoining by bushings 4”. However, Applicant respectfully submits that the mandrels 3 are not “adjoining”. That is, the word

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“adjoining” is defined as “being in contact at some point or line”.¹ Although the bushings 4 secure the mandrels 3 in a fixed position relative to each other, the mandrels 3 are separated such that there is no contact or touching between the mandrels 3. Further, neighboring mandrels 3 are isolated from each other by rubber sheets 6 and metal sheets 7. Thus, Applicant respectfully submits that Csak does not teach or suggest all of the features of claims 1 and 14.

Csak’s system works to reduce the intensity of incoming seismic forces through the energy absorption of sliding blocks and reduce deterioration of mandrels from excessive deformation. On the other hand, the claimed system and method work to reduce vibration. In the present invention, the impedance ratio, that is defined as the ratio of wave velocity to mass, reduces wave transmission across hard to elastic media, and vice versa. A plurality of cell structures along the wave propagation path provides an exponential decay.

Further, Csak does not teach or suggest that the column members surround the elastic material, as required by dependent claims 3 and 16. Although the Examiner asserts that “Csak shows the mandrels (3) surrounding the elastic material (6) that is therebetween”, the mandrels 3 do not enclose the rubber sheets 6 on all sides.² On the contrary, the rubber sheets 6 surround the mandrels 3.

¹ Webster’s Encyclopedic Unabridged Dictionary of the English Language (1996) at page 25.

² The term “surround” is defined by Webster’s Encyclopedic Unabridged Dictionary of the English Language (1996) as “to enclose on all sides” (page 1916).

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In view of the above, Applicant respectfully submits that independent claims 1 and 14, as well as dependent claims 2-4, 12, 13, 15-17, 25 and 26, should be allowable because the cited reference does not teach or suggest all of the features of the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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